LISTING OF CLAIMS

Claims 1-7 (Canceled)

8. (New) A method for producing a quartz epitaxial thin film, on a substrate, comprising

providing a substrate;

vaporizing, under atmospheric pressure, a source of silicon selected from the group consisting of tetramethoxysilane, tetraethoxysilane, tetrapropoxysilane and tetrabutoxysilane;

reacting the source of silicon with oxygen to deposit a quartz film on the substrate.

9. (New) The method of Claim 8, wherein a catalyst is used to promote a reaction of the silicon source with the oxygen.

10. (New) The method of Claim 9, wherein the catalyst is hydrogen chloride.

11. (New) The method of Claim 8, which comprises growing a buffer layer on said substrate and depositing a quartz epitaxial thin film on said buffer layer.

12. (New) The method of Claim 8, comprising depositing a quartz epitaxial thin film on the substrate at a rate of about 3 μm per hour.

13. (New) The method of Claim 8, wherein a composition of said quartz consists essentially of quartz.

14. (New) The method of Claim 8, wherein the substrate is sapphire, silicon or GaAs.

15. (New) The method of Claim 8, wherein the source of silicon is heated to a temperature of 50°C to 120° C.

16. (New) The method of Claim 15, wherein a temperature of a growth area , for depositing the quartz on the substrate, ranges from 550°C to 850°C.

17. (New) The method of Claim 8 wherein said quartz epitaxial thin film is characterized by an X-ray diffraction profile exhibiting a diffraction peak at 2θ=50.6°.

18. (New) The method of Claim 11,wherein the buffer layer is GaN or ZnO.

19. (New) The method of Claim 8, wherein an inert gas is employed as a carrier gas to introduce said source of silicon into a growth area.

20. (New) The method of Claim 19 wherein the oxygen partial pressure is 0.1 to 0.3, in the growth area.

21. (New) The method of Claim 11, wherein the buffer layer is quartz.

22. (New) The method of Claim 22, wherein the buffer layer is formed by depositing quartz at 550°C and annealing the deposited quartz.